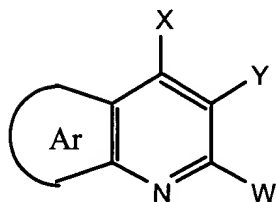


## Listing of Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Claim 1. (original) A compound of the formula:



or pharmaceutically acceptable non-toxic salts or pharmaceutically acceptable solvates thereof wherein:

Y is

hydrogen, straight or branched chain lower alkyl having 1-6 carbon atoms,

halogen, amino, hydroxyl, or lower alkoxy having 1-6 carbon atoms; or

Y is

straight or branched chain lower alkyl having 1-6 carbon atoms or lower alkoxy having 1-6 carbon atoms each of which is substituted on the alkyl chain with an amino or mono or dialkylamino group where each alkyl is independently lower alkyl;

W is

phenyl, thienyl, or pyridyl, each of which may be mono or disubstituted with halogen, cyano, trifluoromethyl, trifluoromethoxy, hydroxy, straight or branched chain lower alkyl having 1-6 carbon atoms, straight or branched chain lower

alkoxy having 1-6 carbon atoms, amino, or mono or dialkylamino where each alkyl is straight or branched chain lower alkyl having 1-6 carbon atoms; or

W is

straight or branched chain lower alkyl having 1-6 carbon atoms or cycloalkyl containing 5 to 8 carbon atoms, or

phenyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, thienyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, or pyridyl(C<sub>1</sub>-C<sub>6</sub>)alkyl, where the aromatic portion of each is optionally mono or disubstituted with halogen, cyano, trifluoromethyl, trifluoromethoxy, hydroxy, straight or branched chain lower alkyl having 1-6 carbon atoms, straight or branched chain lower alkoxy having 1-6 carbon atoms, amino, or mono or dialkylamino where each alkyl is straight or branched chain lower alkyl having 1-6 carbon atoms; or

W is

piperidinyl, morpholinyl, thiomorpholinyl, pyrrolindinyl, piperazinyl, homopiperazinyl, azabicyclo[3.2.2]nonanyl, isoindolinyl, each of which is unsubstituted, or mono or disubstituted with alkyl or aryl groups, or fused to an aromatic ring; or

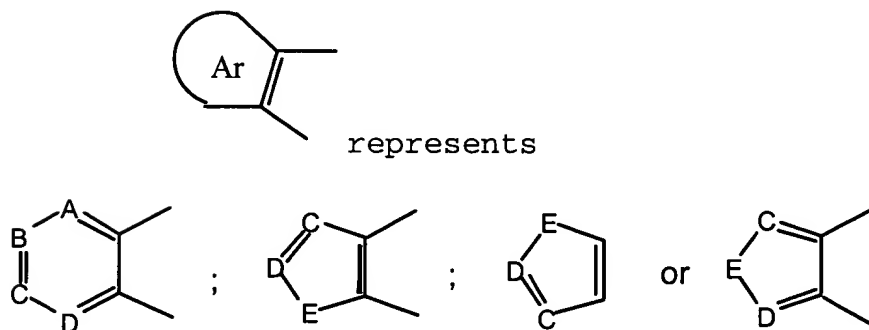
W is

nitrogen that is mono or disubstituted with hydrogen, straight or branched alkyl chain consisting of 1 to 8 carbons, cycloalkyl containing 3 to 8 carbon atoms, alkyl chain having 1 to 6 carbon atoms that is attached at any position to an aryl ring, alkyl chain having 1 to 6 carbon atoms that is attached at any position to a cycloalkyl containing 3 to 8 carbon atoms, phenyl, thienyl, pyridyl,

imidazolyl, benzimidazolyl, or any heterocycle having aromatic character; or

W is

oxygen that is substituted with  
straight or branched alkyl chain having 1 to 8 carbon atoms, cycloalkyl having 3 to 8 carbon atoms, or phenyl mono or disubstituted with halogen, cyano, trifluoromethyl, trifluoromethoxy, hydroxy, straight or branched chain lower alkyl having 1-6 carbon atoms, amino, mono or dialkylamino where each alkyl is straight or branched chain lower alkyl having 1-6 carbon atoms, or straight or branched chain lower alkoxy having 1-6 carbon atoms;



wherein:

A represents nitrogen or C-R<sub>1</sub>

B represents nitrogen or C-R<sub>2</sub>;

C represents nitrogen or C-R<sub>3</sub>;

D represents nitrogen or C-R<sub>4</sub> with the proviso that at least one but not more than 2 of A, B, C, and D are nitrogen; and

E represents oxygen, sulfur or N-R<sub>5</sub>;

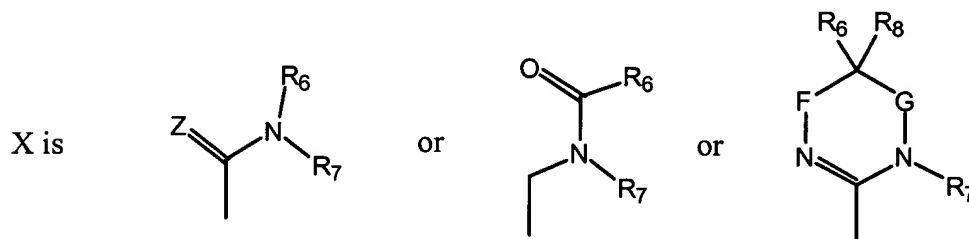
R<sub>1</sub> through R<sub>4</sub> are the same or different and represent

hydrogen, halogen, cyano, trifluoromethyl, trifluoromethoxy, hydroxy, straight or branched chain lower alkyl having 1-6 carbon atoms, amino, mono or dialkylamino where each alkyl is straight or branched chain lower alkyl having 1-6 carbon atoms, or straight or branched chain lower alkoxy having 1-6 carbon atoms:

R<sub>5</sub> is

hydrogen or straight or branched chain lower alkyl having 1-6 carbon atoms; or

phenyl, thienyl, or pyridyl, each of which may be mono or disubstituted with halogen, cyano, trifluoromethyl, trifluoromethoxy, hydroxy, straight or branched chain lower alkyl having 1-6 carbon atoms, amino, mono or dialkylamino where each alkyl is straight or branched chain lower alkyl having 1-6 carbon atoms, or straight or branched chain lower alkoxy having 1-6 carbon atoms;



where

F is carbonyl, methylene or ethylene;

G is methylene or a bond with the proviso that G is a bond when F is ethylene; and

Z is oxygen, sulfur,  $\text{N-C}\equiv\text{N}$ , or two hydrogen atoms;

$R_6$  is phenyl, thienyl, or pyridyl, each of which may be mono or disubstituted with halogen, cyano, trifluoromethyl, trifluoromethoxy, hydroxy, straight or branched chain lower alkyl having 1-6 carbon atoms, amino, mono or dialkylamino where each alkyl is straight or branched chain lower alkyl having 1-6 carbon atoms, or straight or branched chain lower alkoxy having 1-6 carbon atoms; or

$R_6$  is

straight or branched alkyl having 1-8 carbons or cycloalkyl containing 3 to 8 carbon atoms each of which is optionally mono or disubstituted with an aromatic ring where each aromatic ring is optionally mono or disubstituted independently with halogen, cyano, trifluoromethyl, trifluoromethoxy, hydroxy, straight or branched chain lower alkyl having 1-6 carbon atoms, amino, mono or disubstituted amino where the substituent on nitrogen is either straight or branched chain alkyl having 1-6 carbon atoms or straight or branched chain alkoxy having 1-6 carbon atoms; or

$R_6$  is

cycloalkyl containing 5 to 8 carbon atoms wherein the cycloalkyl is fused to an aromatic ring at adjacent positions;

R<sub>7</sub> and R<sub>8</sub> are the same or different and represent  
hydrogen or straight or branched chain lower alkyl  
having 1-6 carbon atoms; or

R<sub>6</sub> and R<sub>7</sub> taken together form a 5, 6, 7 or 8 membered ring which  
is mono or disubstituted with an aryl group or contains a fused  
aryl ring as part of the 5,6, 7 or 8 membered ring described  
above with the proviso that R<sub>6</sub> and R<sub>7</sub> taken together do not form  
a ring when G is a methylene; or

R<sub>6</sub> and R<sub>8</sub> taken together may form a 5, 6, 7 or 8 membered ring  
which is mono or disubstituted with an aryl group or contains a  
fused aryl ring as part of the 5,6, 7 or 8 membered ring.

Claim 2. (original) A compound according to claim 1, which  
is N-[(S)-1-phenyl-1-propyl] (2-phenylpyridino[4,3-b]pyridin-4-  
yl)carboxamide.

Claim 3. (original) A compound according to claim 1, which  
is N-[(S)-1-phenyl-1-propyl] (2-phenylpyridino[4,3-b]pyridin-4-  
yl)carboxamide.

Claim 4. (original) A compound according to claim 1, which  
is N-[(S)-1-phenyl-1-propyl] (2-phenylpyridino[2,3-b]pyridin-4-  
yl)carboxamide.

Claim 5. (original) A compound according to claim 1, which  
is N-[(S)-1-phenyl-1-propyl] (2-phenylpyridino[2,3-b]pyridin-4-  
yl)carboxamide.

Claim 6. (original) A compound according to claim 1, which  
is N-(Diphenylmethyl)N-methyl (2-phenylpyridino[2,3-b]pyridin-4-  
yl)carboxamide.

Claim 7. (original) A compound according to claim 1, which is N-(Diphenylmethyl)-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide.

Claim 8. (original) A compound according to claim 1, which is N-((S)-1-phenyl-1-propyl)(2-phenylthieno[3,2-b]pyridin-4-yl)carboxamide.

Claim 9. (original) A compound according to claim 1, which is selected from the group consisting of

N-[1-(phenyl)ethyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(phenyl)butyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(phenyl)pentyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(phenyl)hexyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(diphenyl)methyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(1,2-diphenyl)ethyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(1-phenyl-2-cyclohexyl)ethyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-indanyl-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(phenyl)isobutyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide; and

N-[1-(phenyl)2-methylbutyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide.

10. (original) A compound according to claim 1, which is selected from the group consisting of

1-isobutyl(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[2,3-b]pyridin-4-yl)ketone;

1-(2-methylphenyl)(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[2,3-b]pyridin-4-yl)ketone;

1-(2-chlorophenyl)(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[2,3-b]pyridin-4-yl)ketone;

1-methyl(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[2,3-b]pyridin-4-yl)ketone;

1-propyl(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[2,3-b]pyridin-4-yl)ketone;

1-butyl(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[2,3-b]pyridin-4-yl)ketone;

1-cyclopentyl(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[2,3-b]pyridin-4-yl)ketone;

1-pentyl(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[2,3-b]pyridin-4-yl)ketone;

1-benzyl(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[2,3-b]pyridin-4-yl)ketone;

1-cyclohexylmethyl(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[2,3-b]pyridin-4-yl)ketone; and

1-isopropyl(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[2,3-b]pyridin-4-yl)ketone.

11. (original) A compound according to claim 1, which is selected from the group consisting of

N-[1-(phenyl)octyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

1-(2-methylbutyl)(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[2,3-b]pyridin-4-yl)ketone;



N-[1,3-(diphenyl)propyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1,4-(diphenyl)butyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-benzyl-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-benzyl-N-ethyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-benzyl-N-isopropyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-benzyl-N-butyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-benzyl-N-isobutyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-benzyl-N-cyclopentyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-benzyl-N-pentyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide; and

N-benzyl-N-cyclohexyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide.

Claim 12. (original) A compound according to claim 1, which is selected from the group consisting of

N,N-dibenzyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-benzyl-N-1-methylpropyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-benzyl-N-1-methylbutyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-benzyl-N-4-methylbutyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-benzyl-N-cyclopentylmethyl (2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-benzyl-N-hexyl (2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-benzyl-N-cyclohexylmethyl (2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-benzyl-N-heptyl (2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-methyl (2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;  
and

N-[1-(phenylcyclopentyl)methyl]-N-methyl (2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide.

Claim 13. (original) A compound according to claim 1, which is selected from the group consisting of

N-[1-(phenylcyclohexyl)methyl]-N-methyl (2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(1-phenyl-2-cyclopentyl)ethyl]-N-methyl (2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(1,3-diphenyl)propyl]-N-methyl (2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(1,4-diphenyl)butyl]-N-methyl (2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

1-phenyl (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[2,3-b]pyridin-4-yl)ketone;

1-cyclohexyl (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[2,3-b]pyridin-4-yl)ketone;

1-cyclopentylmethyl (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[2,3-b]pyridin-4-yl)ketone;

1-hexyl (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[2,3-b]pyridin-4-yl)ketone;

1-(2-fluorophenyl) (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[2,3-b]pyridin-4-yl)ketone; and

1-(2-trifluoromethylphenyl) (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[2,3-b]pyridin-4-yl)ketone.

Claim 14. (original) A compound according to claim 1, which is selected from the group consisting of

1-(3-methylphenyl) (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[2,3-b]pyridin-4-yl)ketone;

1-(4-methylphenyl) (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[2,3-b]pyridin-4-yl)ketone;

1-(4-fluorophenyl) (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[2,3-b]pyridin-4-yl)ketone;

1-cycloheptyl (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[2,3-b]pyridin-4-yl)ketone;

1-(3-chlorophenyl) (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[2,3-b]pyridin-4-yl)ketone;

1-(4-chlorophenyl) (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[2,3-b]pyridin-4-yl)ketone;

6,7-dimethoxy (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[2,3-b]pyridin-4-yl)ketone;

6,7-dimethoxy-1-methyl (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[2,3-b]pyridin-4-yl)ketone;

6,7-dimethoxy-1-phenyl (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[2,3-b]pyridin-4-yl)ketone; and

6,7-dimethoxy-3-methyl (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[2,3-b]pyridin-4-yl)ketone.

Claim 15. (original) A compound according to claim 1, which is selected from the group consisting of

2-[6,7-dimethoxy-2-(2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[2,3-b]pyridin-4-yl)] ethanenitrile ketone;

N-[1-(4-bromophenyl)ethyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;  
 N-[1-(4-methylphenyl)ethyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;  
 N-[1-(3-methylphenyl)ethyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;  
 N-[1-(4-fluorophenyl)ethyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;  
 N-[1-(3-fluorophenyl)ethyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;  
 N-[1-(4-methoxyphenyl)ethyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;  
 N-[1-(3-methoxyphenyl)ethyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;  
 N-[1-(4-chlorophenyl)ethyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;  
 N-[1-(3-chlorophenyl)ethyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide; and  
 N-[1-(4-trifluoromethylphenyl)ethyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide.

Claim 16. (original) A compound according to claim 1, which is selected from the group consisting of

N-[1-(3-trifluoromethylphenyl)ethyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;  
 N-[1-(4-methylphenyl)methyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;  
 N-[1-(3-methylphenyl)methyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;  
 N-[1-(4-fluorophenyl)methyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(3-fluorophenyl)methyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(4-methoxyphenyl)methyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(3-methoxyphenyl)methyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(4-chlorophenyl)methyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide; and

N-[1-(3-chlorophenyl)methyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide.

Claim 17. (original) A compound according to claim 1, which is selected from the group consisting of

N-[1-(4-trifluoromethylphenyl)methyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(3-trifluoromethylphenyl)methyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(4-bromophenyl)methyl]-N-methyl(2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(2-methylphenyl)methyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(2-fluorophenyl)methyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(2-methoxyphenyl)methyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(2-chlorophenyl)methyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(2-trifluoromethylphenyl)methyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(2-methylphenyl)ethyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide; and

N-[1-(2-fluorophenyl)ethyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide.

Claim 18. (original) A compound according to claim 1, which is selected from the group consisting of

N-[1-(2-methoxyphenyl)ethyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(2-chlorophenyl)ethyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(2-trifluoromethylphenyl)ethyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(2,4-dichlorophenyl)ethyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(4-methylphenyl)methyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(3-methylphenyl)methyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(4-fluorophenyl)methyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(3-fluorophenyl)methyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(4-methoxyphenyl)methyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide; and

N-[1-(3-methoxyphenyl)methyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide.

Claim 19. (original) A compound according to claim 1, which is selected from a group consisting of

N-[1-(4-chlorophenyl)methyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(3-chlorophenyl)methyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(4-trifluoromethylphenyl)methyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide;

N-[1-(3-trifluoromethylphenyl)methyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide; and

N-[1-(4-bromophenyl)methyl](2-phenylpyridino[2,3-b]pyridin-4-yl)carboxamide.

Claim 20. (original) A compound according to claim 1, which is selected from the group consisting of:

N-[1-(phenyl)ethyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;

N-[1-(phenyl)butyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;

N-[1-(phenyl)pentyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;

N-[1-(phenyl)hexyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;

N-[1-(diphenyl)methyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;

N-[1-(1,2-diphenyl)ethyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;

N-[1-(1-phenyl-2-cyclohexyl)ethyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;

N-indanyl-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;

N-[1-(phenyl)isobutyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;

N-[1-(phenyl)2-methylbutyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;

1-isobutyl(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[4,3-b]pyridin-4-yl)ketone; and

1-(2-methylphenyl)(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[4,3-b]pyridin-4-yl)ketone.

Claim 21. (original) A compound according to claim 1, which is selected from the group consisting of

1-(2-chlorophenyl)(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[4,3-b]pyridin-4-yl)ketone;  
1-methyl(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[4,3-b]pyridin-4-yl)ketone;  
1-propyl(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[4,3-b]pyridin-4-yl)ketone;  
1-butyl(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[4,3-b]pyridin-4-yl)ketone;  
1-cyclopentyl(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[4,3-b]pyridin-4-yl)ketone;  
1-pentyl(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[4,3-b]pyridin-4-yl)ketone;  
1-benzyl(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[4,3-b]pyridin-4-yl)ketone;  
1-cyclohexylmethyl(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[4,3-b]pyridin-4-yl)ketone;  
1-isopropyl(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[4,3-b]pyridin-4-yl)ketone; and  
N-[1-(phenyl)octyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide.

Claim 22. (original) A compound according to claim 1, which is selected from the group consisting of

1-(2-methylbutyl)(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[4,3-b]pyridin-4-yl)ketone;  
N-[1,3-(diphenyl)propyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;



N-[1,4-(diphenyl)butyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
 N-benzyl-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
 N-benzyl-N-ethyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
 N-benzyl-N-isopropyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
 N-benzyl-N-butyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
 N-benzyl-N-isobutyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
 N-benzyl-N-cyclopentyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide; and  
 N-benzyl-N-pentyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide.

Claim 23. (original) A compound according to claim 1, which is selected from the group consisting of  
 N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
 N-[1-(phenylcyclopentyl)methyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
 N-[1-(phenylcyclohexyl)methyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
 N-[1-(1-phenyl-2cyclopentyl)ethyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
 N-[1-(1,3-diphenyl)propyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
 N-[1-(1,4-diphenyl)butyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
 1-phenyl(2-1,2,3,4-tetrahydroisoquinolyl)(2-phenylpyridino[4,3-b]pyridin-4-yl)ketone;

1-cyclohexyl (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[4,3-b]pyridin-4-yl)ketone;  
1-cyclopentylmethyl (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[4,3-b]pyridin-4-yl)ketone; and  
1-hexyl (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[4,3-b]pyridin-4-yl)ketone.

Claim 24. (original) A compound according to claim 1, which is selected from the group consisting of

1-(2-fluorophenyl) (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[4,3-b]pyridin-4-yl)ketone;  
1-(3-methylphenyl) (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[4,3-b]pyridin-4-yl)ketone;  
1-(4-methylphenyl) (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[4,3-b]pyridin-4-yl)ketone;  
1-(4-fluorophenyl) (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[4,3-b]pyridin-4-yl)ketone;  
1-cycloheptyl (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[4,3-b]pyridin-4-yl)ketone;  
1-(3-chlorophenyl) (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[4,3-b]pyridin-4-yl)ketone;  
1-(4-chlorophenyl) (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[4,3-b]pyridin-4-yl)ketone;  
6,7-dimethoxy (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[4,3-b]pyridin-4-yl)ketone;  
6,7-dimethoxy-1-methyl (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[4,3-b]pyridin-4-yl)ketone;  
6,7-dimethoxy-1-phenyl (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[4,3-b]pyridin-4-yl)ketone; and  
6,7-dimethoxy-3-methyl (2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[4,3-b]pyridin-4-yl)ketone.

Claim 25. (original) A compound according to claim 1, which is selected from the group consisting of

2-[6,7-dimethoxy-2-(2-1,2,3,4-tetrahydroisoquinolyl) (2-phenylpyridino[4,3-b]pyridin-4-yl)] ethanenitrile ketone;  
N-[1-(4-bromophenyl)ethyl] (2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(4-methylphenyl)ethyl] (2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(3-methylphenyl)ethyl] (2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(4-fluorophenyl)ethyl] (2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(3-fluorophenyl)ethyl] (2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(4-methoxyphenyl)ethyl] (2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(3-methoxyphenyl)ethyl] (2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(4-chlorophenyl)ethyl] (2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide; and  
N-[1-(3-chlorophenyl)ethyl] (2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide.

Claim 26. (original) A compound according to claim 1, which is selected from the group consisting of

N-[1-(4-trifluoromethylphenyl)ethyl] (2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(3-trifluoromethylphenyl)ethyl] (2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(4-methylphenyl)methyl]-N-methyl (2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;

N-[1-(3-methylphenyl)methyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(4-fluorophenyl)methyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(3-fluorophenyl)methyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(4-methoxyphenyl)methyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(3-methoxyphenyl)methyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(4-chlorophenyl)methyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide; and  
N-[1-(3-chlorophenyl)methyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide.

Claim 27. (original) A compound according to claim 1, which is selected from the group consisting of

N-[1-(4-trifluoromethylphenyl)methyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(3-trifluoromethylphenyl)methyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(4-bromophenyl)methyl]-N-methyl(2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(2-methylphenyl)methyl](2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(2-fluorophenyl)methyl](2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(2-methoxyphenyl)methyl](2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(2-chlorophenyl)methyl](2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;

N-[1-(2-trifluoromethylphenyl)methyl](2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(2-methylphenyl)ethyl](2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide; and  
N-[1-(2-fluorophenyl)ethyl](2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide.

Claim 28. (original) A compound according to claim 1, which is selected from the group consisting of

N-[1-(2-methoxyphenyl)ethyl](2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(2-chlorophenyl)ethyl](2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(2-trifluoromethylphenyl)ethyl](2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(2,4-dichlorophenyl)ethyl](2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(4-methylphenyl)methyl](2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(3-methylphenyl)methyl](2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(4-fluorophenyl)methyl](2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(3-fluorophenyl)methyl](2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(4-methoxyphenyl)methyl](2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(3-methoxyphenyl)methyl](2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide; and  
N-[1-(4-chlorophenyl)methyl](2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide.

Claim 29. (original) A compound according to claim 1, which is selected from the group consisting of  
N-[1-(3-chlorophenyl)methyl](2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(4-trifluoromethylphenyl)methyl](2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(3-trifluoromethylphenyl)methyl](2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
N-[1-(4-bromophenyl)methyl](2-phenylpyridino[4,3-b]pyridin-4-yl)carboxamide;  
4-ethyl-4-phenyl-2-(2-phenylpyridino[2,3-b]pyridin-4-yl)imidazoline;  
4-isobutyl-4-phenyl-2-(2-phenylpyridino[2,3-b]pyridin-4-yl)imidazoline;  
4-ethyl-4-phenyl-2-(2-phenylpyridino[4,3-b]pyridin-4-yl)imidazoline; and  
4-isobutyl-4-phenyl-2-(2-phenylpyridino[4,3-b]pyridin-4-yl)imidazoline.

Claim 30. (original) All stereoisomeric forms of a compound according to claim 1 and mixtures thereof.

Claim 31. (original) A compound according to claim 1 for use in therapeutic treatment of a disease or disorder associated with pathogenic neurokinin-3 receptor activation.

Claim 32. (original) A pharmaceutical composition comprising a compound as claimed in any one of claims 1 through 8 combined with at least one pharmaceutically acceptable carrier or excipient.

Claim 33. (original) A method for the treatment or prevention of a disease or disorder associated with pathogenic neurokinin-3 receptor activation, said method comprising administering to a patient in need of such treatment or prevention an effective amount of a compound of claim 1.

Claim 34. (original) The use of a compound as claimed in any one of claims 1 through 8 for the manufacture of a medicament for the treatment or prevention of a disease or disorder associated with pathogenic neurokinin-3 receptor activation.

Claim 35. (currently amended) The use of a compound as described in claims 1 through 8 for the manufacture of a medicament for the treatment or prevention of schizophrenia, anxiety, depression, obesity, or pain.

Claim 36. (currently amended) A method according to claim 33 for the treatment or prevention of schizophrenia ~~anxiety or depression~~.

Claim 37. (original) A method according to claim 33 for the treatment of pain.

Claim 38. (original) A method according to claim 33 for the treatment of obesity.

Claim 39. (original) A method according to claim 33 for the treatment of chronic pulmonary obstructive disorder.

Claim 40. (original) A method for localizing neurokinin-3 receptors in a tissue sample comprising:

contacting with the sample a detectably-labeled compound of claim 1 under conditions that permit binding of the compound to neurokinin 3 receptors, washing the sample to remove unbound compound, and detecting the bound compound.

Claim 41. (original) A method of inhibiting the binding of a neurokinin to a neurokinin 3 receptor, said method comprising contacting a compound of claim 1 with cells expressing such a receptor in the presence of a neurokinin, wherein the compound is present at a concentration sufficient to inhibit neurokinin binding to cells expressing a cloned human NK-3 receptor *in vitro*.

Claim 42. (original) A method for altering the signal-transducing activity of neurokinin-3 receptors, said method comprising exposing cells expressing such receptors to a compound according to claim 1 at a concentration sufficient to inhibit neurokinin binding to cells expressing a cloned human neurokinin-3 receptor *in vitro*.

Claim 43. (original) A packaged pharmaceutical composition comprising the pharmaceutical composition of Claim 32 in a container and instructions for using the composition to treat a patient suffering from a disorder responsive to neurokinin-3 receptor antagonism.

Claim 44. (original) The packaged pharmaceutical composition of claim 43, wherein said patient is suffering from anxiety, depression, schizophrenia, obesity or chronic pulmonary obstructive disorder.



Claim 45. (original) A compound according to claim 1 wherein in an assay of neurokinin-3 receptor binding the compound exhibits an  $IC_{50}$  of 1 micromolar or less.